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APPLICATION NO.	APPLICATION NO. FILING DATE		FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/635,892	10/635,892 08/05/2003		Jihperng Leu	884.657US2	1599	
21186	7590	04/21/2006		EXAMINER		
SCHWEGN	MAN, LUN	DBERG, WOES	GURLEY, LYNNE ANN			
P.O. BOX 29 MINNEAPO	938 DLIS, MN 5	55402	ART UNIT	PAPER NUMBER		
	,			2812		
				DATE MAILED: 04/21/200	5	

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action Before the Filing of an Appeal Brief

Application No.	Applicant(s)	
10/635,892	LEU ET AL.	
Examiner	Art Unit	
Lynne A. Gurley	2812	

	Lynne A. Gurley	2812	
The MAILING DATE of this communication appe	ars on the cover sheet with the c	orrespondence add	ress
THE REPLY FILED 23 February 2006 FAILS TO PLACE THIS	APPLICATION IN CONDITION FO	R ALLOWANCE.	
1. The reply was filed after a final rejection, but prior to or on this application, applicant must timely file one of the follow places the application in condition for allowance; (2) a No a Request for Continued Examination (RCE) in compliance time periods:	wing replies: (1) an amendment, aff tice of Appeal (with appeal fee) in c	idavit, or other evider compliance with 37 C	nce, which FR 41.31; or (3)
a) \square The period for reply expires 4 months from the mailing date	of the final rejection.		
b) The period for reply expires on: (1) the mailing date of this A no event, however, will the statutory period for reply expire a Examiner Note: If box 1 is checked, check either box (a) or a statutory period for reply expire a statutory period for reply expire a statutory period for reply expires on:	ater than SIX MONTHS from the mailing	g date of the final rejecti	on.
TWO MONTHS OF THE FINAL REJECTION. See MPEP 7	• •		
Extensions of time may be obtained under 37 CFR 1.136(a). The date have been filed is the date for purposes of determining the period of ex under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the set forth in (b) above, if checked. Any reply received by the Office later may reduce any earned patent term adjustment. See 37 CFR 1.704(b) NOTICE OF APPEAL	tension and the corresponding amount shortened statutory period for reply orig r than three months after the mailing da	of the fee. The appropr inally set in the final Offi	iate extension fee ce action; or (2) as
2. The Notice of Appeal was filed on A brief in comp	pliance with 37 CFR 41.37 must be	filed within two month	ns of the date of
filing the Notice of Appeal (37 CFR 41.37(a)), or any exte a Notice of Appeal has been filed, any reply must be filed	nsion thereof (37 CFR 41.37(e)), to	avoid dismissal of th	
AMENDMENTS			
 The proposed amendment(s) filed after a final rejection, They raise new issues that would require further co They raise the issue of new matter (see NOTE belo 	nsideration and/or search (see NO		ecause
(c) They are not deemed to place the application in being appeal; and/or	•	ducing or simplifying	the issues for
(d) They present additional claims without canceling a		ected claims.	
NOTE: (See 37 CFR 1.116 and 41.33(a)).			
4. The amendments are not in compliance with 37 CFR 1.1		impliant Amendment	(PTOL-324).
5. Applicant's reply has overcome the following rejection(s)		Parala Clad and an and	
6. Newly proposed or amended claim(s) would be al non-allowable claim(s).		•	_
7. For purposes of appeal, the proposed amendment(s): a) how the new or amended claims would be rejected is pro The status of the claim(s) is (or will be) as follows: Claim(s) allowed:		ii be entered and an e	explanation of
Claim(s) allowed: Claim(s) objected to:			
Claim(s) rejected: Claim(s) withdrawn from consideration:			
AFFIDAVIT OR OTHER EVIDENCE			
 The affidavit or other evidence filed after a final action, bu because applicant failed to provide a showing of good an was not earlier presented. See 37 CFR 1.116(e). 			
9. The affidavit or other evidence filed after the date of filing entered because the affidavit or other evidence failed to o showing a good and sufficient reasons why it is necessar	overcome all rejections under appe	al and/or appellant fa	ils to provide a
10. ☐ The affidavit or other evidence is entered. An explanatio REQUEST FOR RECONSIDERATION/OTHER	n of the status of the claims after e	ntry is below or attacl	hed.
 The request for reconsideration has been considered bu <u>See Continuation Sheet.</u> 			nce because:
12. Note the attached Information Disclosure Statement(s).	(PTO/SB/08 or PTO-1449) Paper N	lo(s)	
13. Other:		- June 1	Uel
		Lynne A. Gurley Primary Patent Exa	aminer

Art Unit: 2812

Application No. 10/635,892

Continuation of 11. does NOT place the application in condition for allowance because: the Examiner has considered Applicant's position concerning layer 28. However, in response to Applicant's remarks, pages 6-7, 28 is not the only barrier layer present in the structure. Even though 34 and 50 are disclosed as ARC layers, they also perform the function of a barrier layer. They are made of the same mTiN aterial as a conventional barrier layer. Therefore, the first ILD layer is 20 above the substrate 10; first recess in the first ILD layer is filled with first interconnect 32; a first conductive diffusion barrier layer 34 (clearly, which is directly contacting the layer 32) or TiN 28 is above and on the first interconnect. Although it is difficult to determine if 28 is on the resessed part of 32, layer 34 still meets the claimed limitation. Upper ILD 40 is formed above the first conductive diffusion barrier 34; An upper recess which is filled with layer 48 is formed in the upper ILD 40 to optionally expose the first conductive diffusion barrier 34 (before it is filled with barrier 44) and upper interconnect 48 is formed in the upper recess; and an upper diffusion barrier layer TiN 50 is formed above and on the upper interconnect. The formation of the TiN by electroless plating or, by one of the methods in claim 3, is well known to one of ordinary skill in the art, as is substitution of organic or inorganic dielectric layers for the ILD layers in order to lower the dielectric constant of the structure and thus the capacitance. Again, even though the TiN layers are described as ARC layers, they perform the function of barrier layers as well. accordingly, the rejection of claims 1-17 has been maintained.

Notice of Non-Compliant Amendment (37 CFR 1.121)

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10/635,892	LEU ET AL.	
Examiner	Art Unit	
Lynne A. Gurley	2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

•••
The amendment document filed on <u>23 February 2006</u> is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following tem(s) is required.
THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT: 1. Amendments to the specification: A. Amended paragraph(s) do not include markings. B. New paragraph(s) should not be underlined. C. Other
 2. Abstract: A. Not presented on a separate sheet: 37 CFR 1.72. B. Other
 3. Amendments to the drawings: A. The drawings are not properly identified in the top margin as "Replacement Sheet," "New Sheet," or "Annotated Sheet" as required by 37 CFR 1.121(d). B. The practice of submitting proposed drawing correction has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required. C. Other
 ✓ A. A complete listing of all of the claims is not present. ☐ B. The listing of claims does not include the text of all pending claims (including withdrawn claims) ☑ C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended). ☐ D. The claims of this amendment paper have not been presented in ascending numerical order. ☑ E. Other: See Continuation Sheet.
5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4):
For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.
TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:
 Applicant is given no new time period if the non-compliant amendment is an after-final amendment or an amendment filed after allowance. If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the entire corrected amendment must be resubmitted.
2. Applicant is given one month, or thirty (30) days, whichever is longer, from the mail date of this notice to supply the correction, if the non-compliant amendment is one of the following: a preliminary amendment, a non-final amendment (including a submission for a request for continued examination (RCE) under 37 CFR 1.114), a supplemental amendment filed within a suspension period under 37 CFR 1.103(a) or (c), and an amendment filed in response to a Quayle action. If any of above boxes 1. to 4. are checked, the correction required is only the corrected section of the non-compliant amendment in compliance with 37 CFR 1.121.
Extensions of time are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a Quayle action.
Failure to timely respond to this notice will result in:

Abandonment of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action; or '

Non-entry of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

Legal Instruments Examiner (LIE), if applicable

Telephone No.

Continuation of 4(e) Other: In claim 11, line 5 "[[an]]" is present, which calls for a different ststus identifyer such as "(amended)" instead of "(Previously Presented)".